

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) A method of filling an ink-jet head of an ink-jet printing apparatus with a liquid stored in a tank, wherein the method comprising the steps of:

bringing a suction cap is brought into close contact with a nozzle opening surface of the ink-jet head while with intervention of a gas-permeable filter is positioned between the suction cap and the nozzle opening surface, the gas-permeable filter allowing a gas to pass therethrough and preventing the liquid from passing therethrough; and

sucking air within the suction cap is suctioned with a pump connected to the suction cap so as to draw the liquid from the tank to the gas-permeable filter and fill the whole of the nozzle up to the tip thereof with the liquid.

2. (Currently amended) The method of filling an ink-jet head with a liquid claimed in Claim 1, wherein the gas-permeable filter allows thea gas to pass therethrough and preventsthrough while it does not allow thea liquid from passing therethrough while to pass through under a pressure on the gas-permeable filter from the pump is below a certain level.

3. (Currently amended) The method of filling an ink-jet head with a liquid claimed in Claim 2, wherein the gas-permeable filter further comprisesis made of fine polytetrafluoroethylene fibers having a mean pore diameter of 1 to 3 µm.

4. (Currently amended) The method of filling an ink-jet head with a liquid claimed in Claim 1, wherein the step of filling the nozzle with the liquid is preceded by a step of moving performed after the ink-jet head has been moved to a non-ejection region outside a printing region of the ink-jet printing apparatus.

5. (Currently amended) The method of filling an ink-jet headheads with a liquidliquids, using the method claimed in Claim 1, wherein:

the ink jet head further comprises a plurality of the nozzles; and

in the step of bringing a suction cap into close contact with the nozzle opening surface of the ink-jet head, the gas-permeable filter is brought into close contact with all entire nozzle opening surfaces of all the nozzles of the ink-jet headheads so as to cover all of the nozzle opening surfaces of them, and the air within the suction cap is suctioned.

6. (Currently amended) An ink-jet printing apparatus comprising:

an ink-jet head;

including a tank for supplying a liquid to be ejected to the an ink-jet head of the printing apparatus, comprising:

a suction unit that is selectively pressable into close contact means to be pressed against a nozzle opening surface of the ink-jet head so as to be brought into close contact with it, the suction unit including:

a suction cap;

_____ with a gas-permeable filter provided at the front an ink jet head pressing
surface of the suction cap; thereof and

_____ a pump connected to the suction cap;

wherein the gas permeable filter allows a gas to pass therethrough and prevents
the liquid from passing therethrough.

7. (Currently amended) The ink-jet printing apparatus claimed in Claim 6,
wherein the gas-permeable filter allows the gas to pass throughtherethrough and
prevents the, but not a liquid from passing therethrough while to pass through under a
pressure on the gas-permeable filter from the pump is below a certain level.

8. (Currently amended) The ink-jet printing apparatus claimed in Claim 7,
wherein the gas-permeable filter further comprises is made of fine
polytetrafluoroethylene fibers having a mean pore diameter of 1 to 3 μm .

9. (Currently amended) The ink-jet printing apparatus claimed in Claim 6,
wherein at least one of:

_____ an assemblya unit provided with the suction unit; andmeans, or
_____ the suction cap;

_____ is capable of being raised or lowered in a non-ejection region outside a printing
region.

10. (Currently amended) The ink-jet printing apparatus claimed in Claim 6
wherein the gas-permeable filter is adapted to be brought into close contact with

allentire nozzle opening surfaces of all nozzles of the ink-jet headheads so as to cover all of the nozzle opening surfaces them.

11. (Currently amended) A method of filling an ejection head constituting an apparatus for manufacturing a micro-array by an ink-jet method, wherein the ejection head is filled with a liquid stored in a tank by using the method of filling an ink-jet head with a liquid claimed in Claim 1.

12. (Currently amended) An apparatus for manufacturing a micro-array by an ink-jet method, which is anthe ink-jet printing apparatus claimed in Claim 6.

13. (Currently amended) An apparatus for manufacturing a micro-array, comprising:

a carriage beingthat is movable in at least one direction on a stand; a plurality of cartridges detachably mounted on the carriage, each cartridge storing a liquid and, including an ejection head provided at at the tip thereof for ejecting the liquid by an ink-jet method, and being detachably mounted on the carriage;

a table supportingfor mounting a micro-array substrate relative to the carriage to enable manufacturing of a micro-array by ejecting drops of the liquid; and

a suction unitmeans being mounted on the stand so as to be raised or lowered while the carriage is in athe housing position;

wherein the suction unitmeans includes:

a suction cap connected to a pump; and

a gas-permeable filter supported by the suction cap, the gas-permeable filter being to be brought into contactable with at the bottom face of the carriage, said gas permeable filter allowing a gas to pass therethrough and preventing the liquid from passing therethrough.

14. (Currently amended) The apparatus for manufacturing a micro-array claimed in Claim 13, wherein the gas-permeable filter is supported with intervention of a an elastic sheet having a plurality of suction holes formed therein is interposed between the gas-permeable filter and the suction cap.

15. (Currently amended) The apparatus for manufacturing a micro-array claimed in Claim 13, wherein the suction unitmeans is of unitary construction.

16. (Currently amended) The apparatus for manufacturing a micro-array claimed in Claim 13, wherein the ejection head further comprisessis a multi-reservoir head including a plurality of ejecting portions and a plurality of reservoir tanks.

17. (Currently amended) The apparatus for manufacturing a micro-array claimed in Claim 13, wherein the table is movable in at the direction perpendicular to the moving direction of the carriage.